

Appl. No. 10/075,538
Amdt. dated 12/11/06
Reply to Office action of 8/9/06

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REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-21 remain in the application.

In the second item under paragraph 1 on page 2 of the above-identified Office Action, claims 1-8, 13, 19, and 20 have been rejected as being anticipated by Six (US 5,530,656) under 35 U.S.C. § 102(b).

In the second item under paragraph 2 on page 4 of the above-identified Office Action, claim 21 has been rejected as being unpatentable over Six in view of the Well Known Prior Art under 35 U.S.C. § 103(a).

As will be explained below, it is believed that the claims were patentable over the cited art in their previously presented form and, therefore, the claims have not been amended to overcome the references.

Claim 1, among other things, recites defining an inner reference curve in the color system. The curve consequently lies within the color system and requires the existence of at

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least two different points in this color system, with a line connecting these points.

With N printing inks forming a color solid in the color system, this color system is determined as having at least three dimensions.

The inner curve is defined by selecting one printing ink or a combination of printing inks, which is defined by the mentioned group. The curve can be achieved in different ways. A first way is established by determining the distribution of one of the printing inks in the color space. This can be achieved by varying the tonal value of this printing ink. For example, this curve is defined by the color black. The curve also may be defined by a variety of different inks. Starting from one point with a first combination of printing inks, the curve proceeds in the color system by varying one or more color values of the printing inks.

Boundary surfaces are then defined between this curve and "an outer envelope of the color solid. It should be noted that there is only one outer envelope of the solid. There is no printable color outside the surface that represents this envelope, at least not by the printing inks defining the

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solid. With these boundary surfaces, the solid is being segmented.

These boundaries are defined by printing the first test forms. As surfaces starting at the inner curve, they are formed by the color or the colors of this inner curve and by varying one printing ink or a combination of the printing inks; at least the color distribution of the one printing ink or the combination of printing inks represents another curve in the color system starting at the inner curve and extending towards the enveloping surface of the color solid. Thus, the boundaries are surfaces spanned by the inner curve and other curves starting at the inner curve and extending towards the enveloping surface.

Six, applied by the Examiner in rejecting of claims 1-8, 13 and 19-21, does not show an inner curve in a color system. The curve in Fig. 4 of the patent to Six describes a relationship between measured color values with or without black ink. Because one color point can be created by using different combinations of CMY, both values $X(\text{CMYB})$ and $X(\text{CMY})$ are obtained by using the same combination of CMY (see col. 5, lines 19-25 of Six).

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The curves 126 of Six result from the curve 120 by varying the color black (col. 9, line 4-5 of Six). There is no disclosure how these curves form boundary surfaces between the inner reference curve and the outer envelope of a color solid. In fact, no boundary surface is shown in Six.

Moreover, Six does not teach or suggest how to determine the color profile. Six merely shows how to control the ink feed by comparing the original and the printed product. Because a printing form has already been created in Six for use in the printing process, determining a color profile is unnecessary. Six describes only a method for achieving a deviation in the effective area covering of the inks (see col. 9, lines 32-45 of Six). There is no need for determining a color profile, which is consequently also not shown in Six, nor is there any mention by Six that two different combinations of CMY may show the same $X(\text{CMY})$ value. Fig. 4 of Six shows linear curves, therefore, such a printing profile must have been used for creating the printing form used for the printing, otherwise there would be more than one point of $X(\text{CMY})$ showing the same value for $X(\text{CMYB})$ and there would be no straight lines in Fig. 4. Thus, Six shows a method used after determining a printing color profile.

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Six is concerned with densitometric measurements, not colorimetric, inasmuch as measuring the "optically effective area coverage" is a characteristic of densitometry (see col. 5, lines 46-58 of Six).

In view of the Examiner's remarks, applicant believes that the Examiner has misinterpreted the method shown in Six.

Applicant has not heretofore discussed element 20 shown in Six, because it is apparent that the element 20 could not serve as the inner curve for reasons discussed hereinafter. Six discloses in col. 3, lines 58 and 65, that the element 20 shown in Fig. 1 of Six is a printed sheet 20. On this printed sheet 20 there are established test regions 42 corresponding to test regions 40 also established on an original sheet 10. The original sheet 10 and the printed sheet 20 are physical sheets. A physical printing sheet 20 cannot serve to form or define an inner curve.

As recited in the claims of the instant application, the inner reference curve is defined in the device-independent color system by selecting one of the groups consisting of a printing ink and the combination of printing inks. This feature is not shown in Six.

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It is respectfully submitted that the Examiner misinterprets the claimed term "outer envelope of the color solid" and respectively the term "enveloping surface." The Examiner argues that claim 1 does not refer to a surface of an envelope.

We must carefully define the term "envelope of the color solid" recited in claim 1 of the instant application. The color solid in mathematical terms is a body in a space and the envelope is the envelope enveloping this body. Thus, as defined this envelope is a surface of this body. Referring to an enveloping surface and an outer envelope of the color solid, therefore, is essentially the same. On the other hand, applicant also points out that Six does not show an outer envelope.

Applicant's remarks on page 16 of the June 19, 2006 response to the Office Action cannot and should not be interpreted as applicant's agreement that Six shows the determination of a color profile as the Examiner has alleged.

As disclosed in claim 1, the abstract and in col. 1, line 7-9 and col. 2, lines 52-54 of Six, the method shown in Six relates to a method for controlling the ink feed of a printing machine. This means that Six targets methods for the ink keys

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of ink fountains.

Therefore, it is clearly apparent that Six does not show a color profile used for adjusting the ink keys for controlling the settings of these ink keys, or the ink feed elements as described in col. 2 line 63.

In Six, test regions 14 and 42 are printed on different kinds of sheets 10 and 20. The sheet 10 is an OK sheet that can be achieved on a different printing machine like an ink jet printer. Six shows how this OK sheet 10 is achieved. The sheet 20 is printed on the printing machine, wherein the ink feed elements are to be adjusted.

As disclosed in col. 5 lines 8-55, Six shows a method of how to derive color values, that is, color loci for 3 colored inks by measuring 4 colors CMYB with the help of infrared light so additionally an infrared color density value is received. With the help of linear equations coefficients for calculating the optically effective surfaces coverage values are obtained.

Six discloses in col.9, line 1 that the slopes of the lines 126 illustrated in Fig. 4 are used for determining these coefficients.

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Six further teaches that the differences between the effective surface coverage values of a test region in the original sheet 10 and those of the corresponding test region in the printing sheet 20 are formed. These differences are then converted via empirical relationships into setting commands for the ink feed elements. The empirical relationships take into account, particularly the behavior of the inking system, the construction of the inking system of the printing machine and the properties of the printing inks used (see col. 7, lines 20-29).

By using the teachings of Six, a person skilled in the art would conclude that infrared light should be used for receiving coefficients that can help obtain a better relationship between the colored inks of the printed sheet 20 and to compare these effective values with corresponding values from an original sheet 10. He then would use the ink feeding elements to alter these elements as calculated and subsequently repeat these steps until the difference between the color loci of the test region of the original and the printing sheet falls below predetermined tolerances (see col.7, lines 31-37).

A person skilled in the art would not define an inner reference curve or define boundary surfaces between the inner

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reference curve and an outer envelope of the color solid as recited in claim 1 of the instant application.

A critical step in analyzing the patentability of claims pursuant to 35 U.S.C. § 103 is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614,1617 (Fed. Cir. 1999). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." Id. (quoting W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Most if not all inventions arise from a combination of old elements. See In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453,1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See id. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See id. Rather, to establish obviousness based on a combination of the elements disclosed

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in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the appellant. See In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 163.5, 1637 (Fed. Cir. 1998); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. In addition, the teaching, motivation or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. See WMS Gaming, Inc. v. International Game Tech., 184 F.3d 1339, 1355, 51 USPQ2d 1385, 1397 (Fed. Cir. 1999). The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) (and cases cited therein). Whether the Examiner relies on an express or an implicit showing, the Examiner must provide particular findings related thereto. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence."

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Id. When an Examiner relies on general knowledge to negate patentability, that knowledge must be articulated and placed on the record. See In re Lee, 277 F-3d 1338, 1342-45, 61 USPQ2d 1430, 1433-35 (Fed. Cir. 2002).

The Examiner has made reference to and relied on "Well Known Prior Art", however, the Examiner has not specifically shown where in the prior art the teachings relied upon to make up for the deficiencies in Six are suggested or taught. Nor has the Examiner shown any teaching, suggestion, or motivation to support a combination of the Six and the alleged teaching of the Well Known Prior Art.

Upon evaluation of the Examiner's comments, it is respectfully believed that the Examiner's rejections are without basis and moreover, the evidence adduced by the Examiner is insufficient to establish a prima facie case of obviousness with respect to the claims, in particular claims 1 and 21 of the instant application. Accordingly, the Examiner is requested to withdraw the rejections.

Six does not show "defining an inner reference curve in the device-independent color system by selecting one of the group consisting of a printing ink and a combination of printing inks", "defining boundary surfaces between the inner reference

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curve and an outer envelope of the color solid", and/or
"determining the printing color profile from measured values
from the second test forms" as recited in claim 1 of the
instant application. Claim 21 has similar limitations.

It is accordingly believed to be clear that none of the
references, whether taken alone or in any combination, either
show or suggest the features of claim 1 or 21. Claims 1 and
21 are, therefore, believed to be patentable over the art.
The dependent claims are believed to be patentable as well
because they all are ultimately dependent on claim 1.

Finally, applicant appreciatively acknowledges the Examiner's
statement that claims 9-12 and 14-18 "would be allowable if
rewritten in independent form including all of the limitations
of the base claim and any intervening claims." In light of
the above, applicants respectfully believe that rewriting of
claims 9-12 and 12-14 is unnecessary at this time.

In view of the foregoing, reconsideration and allowance of
claims 1-21 are solicited.

In the event the Examiner should still find any of the claims
to be unpatentable, counsel would appreciate receiving a

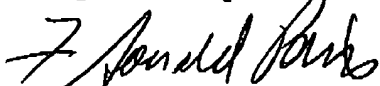
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telephone call so that, if possible, patentable language can be worked out.

Petition for extension is herewith made. The extension fee for response within a period of one (1) month pursuant to Section 1.136(a) in the amount of \$120.00 in accordance with Section 1.17 is enclosed herewith.

Please charge any other fees, which might be due with respect to Sections 1.16 and 1.17 to Deposit Account No. 12-1099 of Lerner Greenberg Stemer LLP.

Respectfully submitted,



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FDP/bb

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